What is claimed is:

1. A method of converting an interlaced video signal to a progressive video signal, the method comprising:

estimating motion vectors of a field to be interpolated and an accuracy of the motion vectors using motion vectors of adjacent fields of the video signal;

determining existence or non-existence of global motion by analyzing the estimated motion vectors;

generating a pixel to be interpolated by a first method which performs motion compensation with respect to the field to be interpolated using at least one of the estimated motion vectors;

generating the pixel to be interpolated by a second method which uses pixels adjacent to the pixel to be interpolated in the field to be interpolated and pixels adjacent to the pixel to be interpolated in the fields preceding and succeeding the field of the pixel to be interpolated; and

selectively outputting one of the pixel generated by the first method or the pixel generated by the second method according to the estimated accuracy of the at least one estimated motion vector and the determined existence or non-existence of global motion.

2. The method of claim 1, wherein the estimating of the motion vectors is performed with respect to adjacent homogeneous fields.

3. The method of claim 1, wherein the estimating of the accuracy of the at least one motion vector comprises accumulating differences among all pixels in a block.

4. The de-interlacing method of claim 1, wherein the determining of the existence or non-existence of global motion comprises:

estimating global motion in a current scene based on a distribution of motion vectors of a plurality of blocks; and

determining the motion type of a block including a pixel of the field to be interpolated by comparing the motion vector of the block including a pixel of the field to be interpolated with a vector of the estimated global motion.

5. The method of claim 4, wherein the distribution of the motion vectors is represented with a histogram.

6. The method of claim 4, wherein a vector of global motion is estimated from a value of a peak in the histogram of the motion vectors.

7. The method of claim 4, wherein a vector of global motion is estimated by comparing a value of the histogram of the motion vectors with a threshold value.

8. The method of claim 4, wherein the vector of global motion is estimated by comparing a value of the histogram of the motion vectors with a variable threshold value which changes based on a value of the global motion vector.

9. The method of claim 4, wherein the determining of the motion type of the block comprises:

setting the motion type of the block to global motion where a difference between the motion vector of the block and the vector of the global motion is less than a predetermined threshold value;

setting the motion type of the block to local motion where a difference between the motion vector of the block and the vector of the global motion exceeds the predetermined threshold value; and

setting the motion type of the block to zero motion where a magnitude of the motion vector of the block is less than a predetermined reference value.

10. The method of claim 1, wherein the selectively outputting comprises:

selecting the pixel generated by the first method as the pixel to be interpolated where the motion type of a block including the pixel of the field to be interpolated is global motion and the estimated accuracy of the at least one motion vector is greater than a predetermined threshold value, and

selecting the pixel generated by the second method as the pixel to be interpolated where the motion type of a block including the pixel of the field to be interpolated is global motion and the estimated accuracy of the at least one motion vector is less than the predetermined threshold value.

11. The method of claim 1, wherein the selectively outputting comprises:

selecting the pixel generated by the first method as the pixel to be interpolated where the motion type of a block including the pixel of the field to be interpolated is local motion and the estimated accuracy of the at least one motion vector is greater than a predetermined threshold value, and

selecting the pixel generated by the second as the pixel to be interpolated where the motion type of a block including the pixel of the field to be interpolated is local motion and the estimated accuracy of the at least one motion vector is less than the predetermined threshold value.

12. The method of claim 1, wherein the selectively outputting comprises:

selecting the pixel generated by the first method as the pixel to be interpolated where the motion type of a block including the pixel of the field to be interpolated is zero motion and the estimated accuracy of the at least one motion vector is greater than a predetermined threshold value, and

selecting the pixel generated in by the second method as a pixel to be interpolated when the motion type of the block including a pixel of the field to be interpolated is zero motion and the estimated accuracy of the at least one motion vector estimated is less than the predetermined threshold value.

13. The of claim10, wherein the threshold value varies according to the motion type.

14. The method of claim 11, wherein the threshold value varies according to the motion type.

15. The method of claim 12, wherein the threshold value varies according to the motion type.

16. An apparatus for converting an interlaced video signal to a progressive video signal, comprising:

a motion estimation unit which estimates a motion vector of a field to be interpolated using a motion vector between fields;

a motion decision unit which determines existence or non-existence of global motion by analyzing the motion vector estimated by the motion estimation unit;

a motion compensated interpolation unit which performs motion compensation with respect to the field to be interpolated using the motion vector estimated by the motion estimation unit to generate a pixel to be interpolated;

a spatio-temporal interpolation unit which generates a pixel to be interpolated using pixels adjacent to the pixel to be interpolated in the field to be interpolated and pixels adjacent to respective pixels corresponding to the pixel to be interpolated in fields preceding and succeeding the field to be interpolated; and

an adaptive selection unit which selectively outputs the pixel generated by the motion compensated interpolation unit or the pixel generated by the spatio-temporal interpolation unit according to the existence or non-existence of global motion determined by the motion decision unit.

17. The apparatus of claim 16, wherein the motion decision unit comprises comprises:

a motion analysis unit which analyzes motion vectors estimated with respect to a current field to determine existence or non-existence of global motion and to determine a motion type; and

a motion type determination unit which determines a motion type in a unit of a block based on the estimated motion vectors and the existence or non-existence of global motion determined by the motion analysis unit.

18. A method of converting an interlaced video signal to a progressive video signal, the method comprising:

estimating a plurality of block motion vectors based on two adjacent fields of a video image;

generating a histogram of the plurality of estimated block motion vectors;

generating at least one first pixel according to a motion compensated interpolation method;

generating at least one second pixel according to a spatio-temporal interpolation method; and

selectively outputting one of the at least one first pixel and the at least one second pixel based on the histogram of the plurality of estimated block motion vectors to output an interpolated video field.

19. The method of claim 18, wherein the selectively outputting further comprises:

estimating an accuracy of each of the plurality of block motion vectors;

estimating an accuracy of at least one block motion vector;

determining whether global motion exists in the video image based on the histogram;

determining a global motion vector; and

determining whether at least one block motion vector corresponds to one of the global motion, local motion and zero motion by comparing the at least one block motion vector with the global motion vector;

wherein the selectively outputting of the one of the at least one first pixel and the at least one second pixel is based on the estimated accuracy of the at least one block motion vector and the determination whether the at least one block motion vector corresponds to the one of the global motion, the local motion and the zero motion.

20. The method of claim 19, wherein where the accuracy of the at least one block motion vector exceeds a predetermined threshold and the block motion vector corresponds to the global motion, the at least one first pixel is selected.

21. The method of claim 19, wherein where the accuracy of the at least one block motion vector is less than a predetermined threshold and the block motion vector corresponds to the global motion, the at least one second pixel is selected.

22. The method of claim 19, wherein where the accuracy of the at least one block motion vector exceeds a predetermined threshold and the block motion vector corresponds to the local motion, the at least one first pixel is selected.

23. The method of claim 19, wherein where the accuracy of the at least one block motion vector is less than a predetermined threshold and the block motion vector corresponds to the local motion, the at least one second pixel is selected.

24. The method of claim 19, wherein where the accuracy of the at least one block motion vector exceeds a predetermined threshold and the block motion vector corresponds to zero motion, the at least one first pixel is selected.

25. The method of claim 19, wherein where the accuracy of the at least one block motion vector is less than a predetermined threshold and the block motion vector corresponds to zero motion, the at least one second pixel is selected.